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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,081	05/31/2001	Dae-Sik Oh	1639	9317

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EXAMINER

DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/871,081	<b>Applicant(s)</b> OH, DAE-SIK	
	<b>Examiner</b> Raymond S Dean	<b>Art Unit</b> 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 - 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 3, 5 – 6, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whang et al. (US 6,609,008) in view of Steer (6,845,246).

Regarding Claim 1, Whang teaches a method of controlling power used for communications between a mobile station and a base station, the method comprising: based on the location, selecting an initial power level of a primary communication channel for communication between the mobile station and the base station (Column 9 lines 64 – 67, Column 10 lines 1 – 9, lines 14 – 16, when the mobile is close to/ far from the base station the S/I will be high/low, said mobile sets the initial transmit power based on said S/I, said S/I is dependent on the distance of said mobile from said base station and thus is dependent on the location of said mobile); and starting at the initial power level, engaging in a power control process that regulates the power of the primary communication channel used for communication between the mobile station and the base station (Column 10 lines 16 – 18).

Whang does not teach determining a location of the mobile station.

Steer teaches determining a location of the mobile station (Column 4 lines 63 – 67, Column 5 lines 1 – 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use location determining method taught by Steer in the system of Whang for the purpose of providing smoother and more accurate power control for packet and wide bandwidth services thus providing optimum allocation of network resources as taught by Steer.

Regarding Claim 2, Whang in view of Steer teaches all of the claimed limitations recited in Claim 1. Steer further teaches referring to a database that correlates locations with power levels; and selecting from the database a power level that is correlated with the location (Column 3 lines 8 – 27, Column 7 lines 16 – 24, lines 66 – 67, Column 8 lines 1 – 10, lines 23 – 25).

Regarding Claim 3, Whang in view of Steer teaches all of the claimed limitations recited in Claim 2. Whang further teaches sending to the mobile station an instruction to transmit at the selected initial power level, whereby the mobile station responsively transmits at the selected initial power level (Column 10 lines 14 – 16, in open loop power control there are access attempts which comprise transmitting a message and receiving or failing to receive an acknowledgement for said message, when an acknowledgement is received from the base station the mobile will then set the initial transmit level and transmit at said level, the acknowledgement gives the mobile the “green light” to go ahead and transmit at the established initial power level thus said acknowledgement is the instruction).

Regarding Claim 5, Whang in view of Steer teaches all of the claimed limitations recited in Claim 2. Steer further teaches an initial base station transmit power level (Column 9 lines 13 – 57), setting the base station to transmit at the initial base station transmit power level, whereby the base station responsively transmits at the initial base station transmit power level (Column 9 lines 13 – 57).

Regarding Claim 6, Whang in view of Steer teaches all of the claimed limitations recited in Claim 1. Steer further teaches a base station (Column 9 lines 13 – 15).

Regarding Claim 23, Whang teaches a power control system comprising: means for selecting an initial power level of a primary communication channel for communication between the mobile station and the base station based on the location (Column 9 lines 64 – 67, Column 10 lines 1 – 9, lines 14 – 16, when the mobile is close to/ far from the base station the S/I will be high/low, said mobile sets the initial transmit power based on said S/I, said S/I is dependent on the distance of said mobile from said base station and thus is dependent on the location of said mobile); and means for engaging in a power control process, starting at the initial power level, that regulates the power of the primary communication channel used for communication between the mobile station and the base station at the selected power level (Column 10 lines 16 – 18).

Whang does not teach means for determining a location of the mobile station.

Steer teaches means for determining a location of the mobile station (Column 4 lines 63 – 67, Column 5 lines 1 – 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use location determining method taught by Steer in the system of Whang for the purpose of providing smoother and more accurate power control for packet and wide bandwidth services thus providing optimum allocation of network resources as taught by Steer.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whang et al. (US 6,609,008) in view Steer (6,845,246) as applied to Claim 2 above, and further in view of Cheng et al. (6,154,638).

Regarding Claim 4, Whang in view of Steer teaches all of the claimed limitations recited in Claim 2. Steer further teaches transmitting from the base station to the mobile station at the initial base station transmit power (Column 9 lines 13 – 57).

Whang in view of Steer does not teach wherein the selected initial power level is a Digital Gain Unit and translating the Digital Gain Unit into a corresponding initial base station transmit power.

Cheng teaches a Digital Gain Unit and translating the Digital Gain Unit into a corresponding initial base station transmit power (Figure 6B, Column 7 lines 42 – 45, Column 7 lines 54 – 57, there is a direct relation between the forward link capacity and the forward link power thus there will be a translation of the DGU into a corresponding base station transmit power).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Digital Gain Unit taught above in Cheng in the wireless

system of Whang in view of Steer for the purpose of measuring the forward link capacity and performance such that an accurate indication of link balance can be obtained as taught by Cheng.

4. Claims 7 – 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whang et al. (US 6,609,008) in view of Soliman (US 6,490,460).

Regarding Claim 7, Whang teaches a method of controlling power of communications between a mobile station and a base station, the method comprising: based on the location, selecting an initial transmit power for the mobile station on the primary communication channel (Column 9 lines 64 – 67, Column 10 lines 1 – 9, lines 14 – 16, when the mobile is close to/ far from the base station the S/I will be high/low, said mobile sets the initial transmit power based on said S/I, said S/I is dependent on the distance of said mobile from said base station and thus is dependent on the location of said mobile); and using a reverse link set point and the initial transmit power as a basis to manage mobile station transmit power on the primary communication channel (Column 10 lines 16 – 18, lines 21 – 25).

Whang does not teach determining a location of the mobile station and selecting a reverse link set point based on the location.

Soliman teaches determining a location of the mobile station and selecting a reverse link set point based on the location (Figure 2, Column 4 Table 1, Column 4 lines 12 – 15, lines 63 – 67, Column 7 lines 11 – 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the location determination method and reverse link set point selection method taught by Soliman in the system of Whang for the purpose of providing a power control system that would dynamically adjust the parameters of the reverse link control loop in response to changing position and/or speed of a mobile station, so as to conserve transmit power and increase cell capacity as taught by Soliman.

Regarding Claim 8, Whang in view of Soliman teaches all of the claimed limitations recited in Claim 7. Soliman further teaches referring to a database that correlates locations with reverse link set points; and selecting from the database a reverse link set point that is correlated with the location (Figure 2, Column 4 Table 1, Column 7 lines 11 – 29).

Regarding Claim 13, Whang in view of Soliman teaches all of the claimed limitations recited in Claim 7. Soliman further teaches a base station (Figure 4, Column 8 lines 17 – 20).

5. Claims 9 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable Whang et al. (US 6,609,008) in view of Soliman (US 6,490,460) as applied to Claim 7 above, and further in view of Chen et al. (US 6,763,244)

Regarding Claim 9, Whang in view of Soliman teaches all of the claimed limitations recited in Claim 7. Whang further teaches sending the mobile station an instruction to use the initial transmit power (Column 10 lines 14 – 16, in open loop



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power control there are access attempts which comprise transmitting a message and receiving or failing to receive an acknowledgement for said message, when an acknowledgement is received from the base station the mobile will then set the initial transmit level and transmit at said level, the acknowledgement gives the mobile the "green light" to go ahead and transmit at the established initial power level thus said acknowledgement is the instruction).

Whang in view of Soliman does not teach measuring an energy level of a signal received from the mobile station; based on the energy level and an estimate of air interface noise,  $N_o$ , computing a measured value of  $E_b/N_o$ ; comparing a measured value of  $E_b/N_o$  with the reverse link set point and if the measured value of  $E_b/N_o$  does not match the reverse link set point, sending to the mobile station an instruction to adjust the mobile station transmit power on the primary communication channel.

Chen teaches measuring an energy level of a signal received from the mobile station; based on the energy level and an estimate of air interface noise,  $N_o$ , computing a measured value of  $E_b/N_o$  (Column 4 lines 65 – 67, Column 5 lines 12 – 21); comparing a measured value of  $E_b/N_o$  with the reverse link set point and if the measured value of  $E_b/N_o$  does not match the reverse link set point, sending to the mobile station an instruction to adjust the mobile station transmit power on the primary communication channel (Column 4 lines 65 – 67, Column 5 lines 12 – 21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power control method taught by Chen in the wireless

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system of Whang in view of Soliman for the purpose of maximizing reverse link capacity as taught by Chen.

Regarding Claim 10, Whang in view of Soliman teaches all of the claimed limitations recited in Claim 7. Whang further teaches receiving a signal at the base station from the mobile station (Column 10 lines 16 – 18, during closed loop power control the base station will receive a signal from the mobile station such that said base station can measure the signal quality of the reverse link).

Whang in view of Soliman does not teach measuring a frame error rate of the signal; comparing the measured frame error rate to a threshold frame error rate; if the measured frame error rate does not match the threshold frame error rate, adjusting the reverse link set point; using the adjusted reverse link set point as a basis to manage mobile station transmit power on the primary communication channel.

Chen teaches measuring a frame error rate of the signal; comparing the measured frame error rate to a threshold frame error rate (Column 4 lines 65 – 67, Column 5 lines 40 – 67); if the measured frame error rate does not match the threshold frame error rate, adjusting the reverse link set point (Column 4 lines 65 – 67, Column 5 lines 40 – 67); using the adjusted reverse link set point as a basis to manage mobile station transmit power on the primary communication channel (Column 4 lines 65 – 67, Column 5 lines 40 – 67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the outer loop method taught by Chen in the wireless system

of Whang in view of Soliman for the purpose of maintaining a desired link performance thus reducing delays in serving users as taught by Chen.

Regarding Claim 11, Whang in view of Soliman and in further view of Chen teaches all of the claimed limitations recited in Claim 10. Soliman further teaches based on the location, selecting a bounding value for a reverse link set point; using the bounding value as a basis to limit the reverse link set point (Figure 2, Column 7 lines 11 – 29, the SNR ranges provide the bounds).

Regarding Claim 12, Whang in view of Soliman and in further view of Chen teaches all of the claimed limitations recited in Claim 11. Soliman further teaches wherein selecting a bounding value for a reverse link set point comprises: referring to a database that correlates locations with bounding values of reverse link set points; and selecting from the database a reverse link set point that is correlated with the location (Figure 2, Column 7 lines 11 – 29).

6. Claims 14 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,763,244) in view of Steer (US 6,845,246) and in further view of Soliman (US 6,490,460).

Regarding Claim 14, Chen teaches performing a first process comprising establishing a measured value of  $E_b/N_0$  and if the measured value of  $E_b/N_0$  does not match the reverse link set point instructing the mobile station to adjust transmit power on the primary communication channel (Column 4 lines 65 – 67, Column 5 lines 12 – 21); performing a second process comprising establishing a measured value of reverse

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link frame-error-rate and if the measured value of reverse link frame-error-rate does not match a threshold value of reverse link frame-error-rate, adjusting the reverse link set point (Column 4 lines 65 – 67, Column 5 lines 40 – 67); and performing a third process comprising receiving a measured value of forward link frame-error-rate and if the received value of forward link frame-error-rate does not match a threshold value of forward link frame-error-rate, adjusting the forward link transmit power on the primary communication channel (Column 5 lines 40 – 67).

Chen does not teach a location based power control method for communications between a mobile station and a base station, the method comprising: determining a location of the mobile station; and based on the location, selecting from a database values of initial mobile station transmit power, reverse link set point, and initial base station transmit power for a primary communication channel, instructing the mobile station to transmit at the initial mobile station transmit power on the primary communication channel; transmitting to the mobile station at the initial base station transmit power on the primary communication channel.

Steer teaches a location based power control method for communications between a mobile station and a base station, the method comprising: determining a location of the mobile station (Column 4 lines 63 – 67, Column 5 lines 1 – 3); and based on the location, selecting from a database values of initial mobile station transmit power (Column 3 lines 8 – 27, Column 7 lines 16 – 24, lines 66 – 67, Column 8 lines 1 – 10, lines 23 – 25) and initial base station transmit power for a primary communication channel (Column 9 lines 13 – 57), instructing the mobile station to transmit at the initial

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mobile station transmit power on the primary communication channel (Column 8 lines 6 – 10, the fact that the mobile will transmit uplink signals means that there will be a point in time when said mobile will be instructed to transmit said signals); transmitting to the mobile station at the initial base station transmit power on the primary communication channel (Column 9 lines 13 – 16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the location determination method and initial power selection based on said location method taught by Steer in the wireless system of Chen for the purpose of preventing the power control feedback loop from correcting for deep fades thereby substantially eliminating system degradation as taught by Steer.

Chen in view of Steer does not teach based on location, selecting from a database values of reverse link set point.

Soliman teaches based on location, selecting from a database values of reverse link set point (Figure 2, Column 4 Table 1, Column 7 lines 11 – 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the reverse link set point selection based on location method in the wireless system of Chen in view of Steer for the purpose of adjusting the parameters of the reverse link power control loop in response to changing position and/or speed of a mobile station thereby conserving transmit power and increasing cell capacity as taught by Soliman.

Regarding Claim 15, Chen in view of Steer and in further view of Soliman teaches all of the claimed limitations recited in Claim 14. Soliman further teaches a base station (Figure 4, Column 8 lines 17 – 20).

Regarding 16, Chen teaches a method of controlling power of communications between a mobile station and a base station, the method comprising the following steps: computing an energy-to-noise measure for a signal received from the mobile station (Column 4 lines 65 – 67, Column 5 lines 12 – 21); determining if the energy-to-noise measure matches the set point (Column 4 lines 65 – 67, Column 5 lines 12 – 21); and in response to a determination that the energy-to-noise measure does not match the initial set point, instructing the mobile station to adjust the mobile station transmit power (Column 4 lines 65 – 67, Column 5 lines 12 – 21).

Chen does not teach determining a location of the mobile station; based on the location, selecting a set point and a mobile station transmit power on a primary communication channel; instructing the mobile station to transmit at the mobile station transmit power on the primary communication channel.

Steer teaches determining a location of the mobile station (Column 4 lines 63 – 67, Column 5 lines 1 – 3); based on the location, selecting a mobile station transmit power on a primary communication channel (Column 3 lines 8 – 27, Column 7 lines 16 – 24, lines 66 – 67, Column 8 lines 1 – 10, lines 23 – 25); instructing the mobile station to transmit at the mobile station transmit power on the primary communication channel (Column 8 lines 6 – 10, the fact that the mobile will transmit uplink signals means that there will be a point in time when said mobile will be instructed to transmit said signals).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the location determination method and power selection based on said location method taught by Steer in the wireless system of Chen for the purpose of preventing the power control feedback loop from correcting for deep fades thereby substantially eliminating system degradation as taught by Steer.

Chen in view of Steer does not teach based on location, selecting a set point.

Soliman teaches based on location, selecting a set point (Figure 2, Column 4 Table 1, Column 7 lines 11 – 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the reverse link set point selection based on location method in the wireless system of Chen in view of Steer for the purpose of adjusting the parameters of the reverse link power control loop in response to changing position and/or speed of a mobile station thereby conserving transmit power and increasing cell capacity as taught by Soliman.

Regarding Claim 17, Chen in view of Steer and in further view of Soliman teaches all of the claimed limitations recited in Claim 16. Chen further teaches monitoring an error rate of signals received from the mobile station (Column 4 lines 65 – 67, Column 5 lines 40 – 67); determining if the error rate matches a predetermined threshold; in response to a determination that the error rate does not match the predetermined threshold, adjusting the set point (Column 4 lines 65 – 67, Column 5 lines 40 – 67).

Regarding Claim 18, Chen in view of Steer and in further view of Soliman teaches all of the claimed limitations recited in Claim 17. Chen further teaches periodically repeating the steps of d – f and g – I steps (Column 4 lines 65 – 67, Column 5 lines 12 – 67).

Regarding Claim 19, Chen in view of Steer and in further view of Soliman teaches all of the claimed limitations recited in Claim 18. Steer further teaches detecting a new location of the mobile station (Column 4 lines 63 – 67, Column 5 lines 1 – 3), repeating steps b – c (Column 3 lines 8 – 27, Column 7 lines 16 – 24, lines 66 – 67, Column 8 lines 1 – 10, lines 23 – 25). Soliman further teaches based on location, selecting a set point (Figure 2, Column 4 Table 1, Column 7 lines 11 – 29). Chen further teaches repeating steps d – f (Column 4 lines 65 – 67, Column 5 lines 12 – 21).

Regarding Claim 20, Chen in view of Steer and in further view of Soliman teaches all of the claimed limitations recited in Claim 16. Soliman further teaches a base station (Figure 4, Column 8 lines 17 – 20).

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,763,244) in view of Steer (US 6,845,246).

Regarding Claim 21, Chen teaches a method of controlling power of communications between a mobile station and a base station, the method comprising the following steps: monitoring an error rate of signals received by the mobile station (Column 5 lines 40 – 67); determining if the error rate matches a predetermined threshold; in response to a determination that the error rate does not match the



predetermined threshold, adjusting the base station transmit power level on the primary communication channel (Column 5 lines 40 – 67).

Chen does not teach determining a location of the mobile station; based on the location, selecting a base station transmit power level on a primary communication channel; transmitting from the base station at the base station transmit power level on the primary communication channel.

Steer teaches determining a location of the mobile station (Column 4 lines 63 – 67, Column 5 lines 1 – 3); based on the location, selecting a base station transmit power level on a primary communication channel (Column 9 lines 13 – 57); transmitting from the base station at the base station transmit power level on the primary communication channel (Column 9 lines 13 – 57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the location determination method and initial power selection based on said location method taught by Steer in the wireless system of Chen for the purpose of preventing the power control feedback loop from correcting for deep fades thereby substantially eliminating system degradation as taught by Steer.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,763,244) in view of Steer (US 6,845,246) as applied to Claim 21 above, and further in view of Cheng et al. (6,154,638).

Regarding Claim 22, Chen in view of Steer teaches all of the claimed limitations recited in Claim 21. Chen in view of Steer does not teach selecting a Digital Gain Unit

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and translating the Digital Gain Unit into a base station transmit power level.

Cheng teaches selecting a Digital Gain Unit and translating the Digital Gain Unit into a base station transmit power level (Figure 6B, Column 7 lines 42 – 45, Column 7 lines 54 – 57, there is a direct relation between the forward link capacity and the forward link power thus there will be a translation of the DGU into a corresponding base station transmit power).


It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Digital Gain Unit taught above in Cheng in the wireless system of Chen in view of Steer for the purpose of measuring the forward link capacity and performance such that an accurate indication of link balance can be obtained as taught by Cheng.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S Dean whose telephone number is 571-272-7877. The examiner can normally be reached on 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Raymond S. Dean  
April 20, 2005

  
EDAN ORGAD  
PATENT EXAMINER/TELECOMM.